

ABSTRACT

METHOD FOR THE HIGHER-ORDER BLIND DEMODULATION OF A LINEAR-WAVEFORM TRANSMITTER

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Process for the blind demodulation of a linear waveform source or transmitter in a system comprising one or more sources and an array of sensors and a propagation
10 channel. The process comprises at least the following steps:

- the symbol period T is determined and sampled to T_e such that $T = IT_e$ (I being an integer);
- a spatio-temporal observation $z(t)$, the mixed
15 sources of which are symbol trains from the transmitter, is constructed from the observations $x(kT_e)$;
- an ICA-type method is applied to the observation vector $z(t)$ in order to estimate the L_c
20 symbol trains $\{a_{m-i}\}$ that are associated with the channel vectors $\hat{h}_{z,j} = \hat{h}_z(k_j)$;
- the L_c outputs $(\hat{a}_{m,j}, \hat{h}_{z,j})$ are arranged in the same order as the inputs $(a_{m-i}, h_z(i))$ so as to obtain the propagation channel vectors $\hat{h}_{z,j} = \hat{h}_z(k_j)$; and
- 25 • the phase α_{imax} associated with the outputs is determined.

Figure 5 to be published.